

## CLAIMS

What is claimed is:

1. An apparatus for forming a recording pattern and an erase pattern alternatively and sequentially on an optical recording medium in response to input data having a first level and a second level, respectively, in an optical recording apparatus, comprising:

a recording waveform generating unit generating a recording waveform which includes a first multi-pulse having a plurality of first pulses to form the recording pattern in response to the first level of the input data and a second multi-pulse having a plurality of second pulses to form the erase pattern in response to the second level of the input data.

2. The apparatus of claim 1, wherein the recording waveform generating unit generates a cooling pulse as a portion of the first multi-pulse and another portion of the second multi-pulse.

3. The apparatus of claim 1, wherein the first pulses of the first multi-pulse each have a first duty cycle and a first amplitude, and the second pulses of the second multi-pulse each have a second duty cycle different from the first duty cycle and a second amplitude different from the first amplitude.

4. The apparatus of claim 1, further comprising:

a pickup unit forming a mark corresponding to the recording pattern on the optical disc in response to the first pulses of the first multi-pulse and erasing another mark to form a space corresponding to the erase pattern on the optical disc in response to the second pulses of the second multi-pulse.

5. An apparatus for forming a recording pattern and an erase pattern alternatively and sequentially on an information storage medium in response to input data having a first level and a second level, respectively, in a recording apparatus, comprising:

a recording waveform generating unit generating a recording waveform which comprises the recording pattern corresponding to the first level of the input data, the erase pattern having a multi-pulse corresponding to the second level of the input data, and a cooling pulse concatenating the recording and erase patterns.